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REDISCOVERY OF PHANEROTOMA MACULATA (WOLLASTON) (INSECTA, BRACONIDAE) IN THE HIGH-ALTITUDE ZONE OF MADEIRA

By M.W.R. de V. Graham *

With 3 figures

SUMÁRIO. No presente trabalho é dado conhecimento da redescoberta na Madeira da vespa parasita *Phanerotoma maculata* (Wollaston) (Insecta, Hymenoptera, Braconidae), a qual não era encontrada desde 1850. A fêmea desta espécie é ilustrada e redescrita. São também fornecidos alguns pormenores acerca de duas espécies de Lepidoptera as quais ocorrem no mesmo habitat que *P. maculata*: *Xenochlorodes nubigena* (Wollaston) e *Neohipparchia statilinus* (Hufn.).

I wish to thank my wife for assisting with collecting insects during our last visit to Madeira.

This species of Braconidae was described (as *Ascogaster maculata)* by Wollaston (1858 : 24). He captured the holotype female (described in error as male) 'on the extreme summit of Pico Ruivo (upwards of 6000 feet above the sea), early in August 1850'. The species has not been noticed since that time.

Last year (1985) my wife and I were fortunate enough to take several specimens of *maculata* in Madeira. We found them in two places: Ribeira das Cales, on the way to Pico do Areeiro, and Achada do Teixeira near the basalt rock known as Homem-em-pé, on the ascent to Pico Ruivo. The two sites are similar, bearing groves of fair-sized trees of *Erica arborea* on rocky ground, with much bracken *(Pteridium aquilinum)* growing in their shade and some grass *(Aira praecox)* though little other herbage. The *maculata* were obtained by sweeping the bracken, which also harboured

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a great many Ichneumonidae representing several species, some other Braconidae, Chalcidoidea of several kinds, and some *Bethylus tenuis* Wollaston.

At Ribeira das Cales we disturbed extraordinary numbers of the emerald moth *Xenochlorodes nubigena* (Wollaston) from the bracken and it was also present though less numerous at Achada do Teixeira. When describing this moth Wollaston (1858 : 118) noted its abundance at the same time and place where he took *Phanerotoma maculata*. The association may be fortuitous because although the moth might be a host of the Braconid, species of *Phanerotoma* more commonly parasitize Lepidoptera Tortricidae or other 'microlepidoptera'. Incidentally, in Wollaston's day the area around the summit of Pico Ruivo was extensively covered with large trees of *Erica arborea* like those at Achada do Teixeira which is not so far away, but few now remain. Clearly the habitat of *P. maculata* is the *Erica*-groves in the high-altitude zone of Madeira; at all events after extensive collecting we have not found it elsewhere.

As the original description is very brief and inadequate for recognizing *maculata*, a redescription and figures of the female are given below.

Phanerotoma maculata (Wollaston)

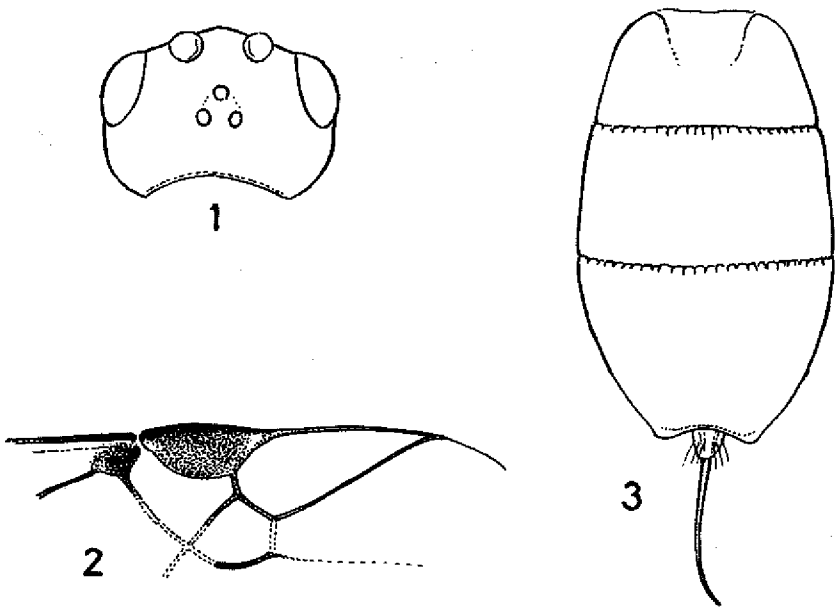
(Figs. 1 - 3)

Ascogaster maculata Wollaston, 1858 : 24.
Phanerotoma maculata (Wollaston) Huddleston, 1984 : 381.

♀. Head in dorsal view (Fig. 1) with temples about as long as eyes, rounded and converging only slightly; occiput not deeply emarginate, its edge forming an even curve. Clypeus separated from face by a groove, its front margin with a pair of rudimentary teeth. Antenna with 22 - 23 segments; flagellum slender, hardly expanded beyond the middle, tapering from segment 15 to the tip; first flagellar segment slightly longer than the second and about 4 times as long as broad, following segments decreasing gradually in length but even segment 14 about twice as long as broad, only three or four apical segments hardly longer than broad. Scutellum finely coriaceous and rather dull. Mesopleuron entirely finely coriaceous and matt. Forewing (Fig. 2) with metacarp 1.25 - 1.3 times as long as stigma; overall length of radial cell about 1.5 times length of stigma, which is slightly more than twice as long as broad; nervulus about its own length beyond basal vein. Gastral carapace (Fig. 3) with well-rounded sides, with a broad but rather shallow apical excision; ovipositor sheaths projecting beyond tip of gaster by a length about equal to that of third tergite, very slender and tapering, strongly curved upwards; tergites 1 and 2 nearly matt, finely densely punctate with a tendency to form weak longitudinal striae in places; tergite 3 similarly sculptured except for a vaguely defined median longitudinal strip which is shiny with

scattered irregular punctures and some weak striae. Length (excluding ovipositor) 2.8 - 3.2 mm.

Body Black with the following parts rust-red or reddish-testaceous: at least genae and inner orbits broadly, but often temples and vertex more or less, occasionally the whole head except occipital surface and middle of face; mesoscutum at least posteriorly but often mainly with only an anterior spot and two lateral spots dark; sometimes the pronotum more



Figs. 1 - 3. — *Phanerotoma maculata* (Wollaston), female. 1. Head, dorsal view; 2. Part of forewing; 3. Gaster.

or less and a stripe on mesopleuron; usually a rather poorly-defined area covering the posteromedian part of tergite 1 and the anteromedian part of tergite 2. Rarely the gaster is wholly black. Antennae black, often reddish basally. Femora reddish to fuscous; hind tibia with basal third red to fuscous, middle third cream, distal third brown to black. Stigma fuscous, narrowly pale at base and apex; forewing slightly infumate below basal vein and below stigma.

♂. Unknown.

Redescribed from the following material:

Madeira : Pico Ruivo, 1862 m, 1 ♀, viii.1850 (T.V.Wollaston); Achada do Teixeira, near Homem-em-pé, 1450 m, 5 ♀ ♀, 10.viii.1985 (Mrs. E.M. Graham); Ribeira das Cales, 1450 m, 1 ♀, 26.vii.1985, 7 ♀ ♀, 13.viii.1985 (M. de V. Graham.).

I have not found any later described species which might be a synonym of *maculata*. It resembles the Central European species *gregori* Snoflák (1950, fig.3) and *atra* Snoflák (1950, fig.5) in having the caudal margin of the gastral carapace similarly excised and the slender upcurved ovipositor projecting by a length almost equal to that of the third tergite. To judge from Snoflák's descriptions (which appear to be good) *maculata* differs from *gregori* particularly in its mainly dark body and in having the sides of the gaster more curved. It differs from *atra* in having the clypeus separated from the face and the former with rudimentary teeth, occiput less deeply emarginate and the occipital edge forming a more even curve, apical excision of gastral carapace broader but less deep, body reddish-marked (wholly black in *atra*).

The fauna of the high level area where *Phanerotoma maculata* occurs includes many interesting elements. One is the moth *Xenochlorodes nubigena* first taken by Wollaston on Pico Ruivo. In addition to the localities Ribeira das Cales and Achada do Teixeira, my wife and I have seen it at Rabaçal and in the Fanal, though only a few specimens. Lundblad previously took it at Rabaçal and Caramujo (Prout, 1939 : 3), also at Ribeiro do Inferno. The published figures do not represent it very well. When fresh it is a pretty species, its wings a delicate pale green with a hardly perceptible whitish line crossing both pairs; cilia white at base and pinkish distally, costal edge of wing and face below antennal insertions pink, the fore femora and tibiae pinkish externally, sometimes also the middle femora.

There is also the butterfly *Neohipparchia statilinus* (Hufn.), only recently added to the Madeiran list, and of which we saw several at Ribeira das Cales. It is wary and amazingly agile, seeming to play a game of hide-and-seek amongst the *Erica arborea*, on which it frequently settled.

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NOTES ON TWO MADEIRA PLANTS

By N. C. H. Krauss [1]

The composite plant «Abundância» (*Eupatorium adenophorum* Spreng.) has been known in Madeira for many years. On July 24, 1962 I collected a second species of *Eupatorium*, *E. riparium* Schultz-Bip., confirmed by the Royal Botanic Garden, Kew, England. This was growing in association with *E. adenophorum* in a damp area along a path near Monte. Both these species of *Eupatorium* are native to Mexico. I have seen *E. riparium* growing along a small stream in a ravine at the Desierto de los Leones, Distrito Federal, in the hills above Mexico City. Both species are pests in grazing land in Hawaii.

On November 7, 1960 I collected specimens of *Ulex minor* Roth (determined by Royal Botanic Garden, Kew) in the grassy hills above Ribeiro Frio. Since then I have seen it also at Encumeada and Santo da Serra. *Ulex europaeus* L. has been known in Madeira for a long time, but I have not seen any records of *U. minor*.

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